



Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 11943-1 (1987): Hard Metal Burrs, Part 1: Technical Supply Conditions [PGD 32: Cutting tools]

“ज्ञान से एक नये भारत का निर्माण”

Satyanaaranay Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartṛhari—Nītiśatakam

“Knowledge is such a treasure which cannot be stolen”



BLANK PAGE



PROTECTED BY COPYRIGHT

[Small Tools Sectional Committee, EDC 45; Carbide Tips (Indexable Inserts) Blanks Subcommittee, EDC 45.6 [Ref : Doc : EDC 45 (4599)]]

Indian Standard

SPECIFICATION FOR HARD METAL BURRS

PART 1 TECHNICAL SUPPLY CONDITIONS

1. Scope — Covers the different types and the general requirements of hard metal burrs of solid construction or brazed shank.

2. Types — The types of hard metal burrs shall be as given in Table 1.

3. Material

3.1 Brazed Shank — Suitable carbon steel with tensile strength not less than 700 MPa.

3.2 Hard Metal Burr Carbide Portion — Shall be of a range of application suitable for the particular workpiece material as specified by the purchaser according to IS : 2428-1964 'Application of carbides for machining, range of application and colour code'.

4. Dimensions and Tolerances

4.1 Cutting Diameter

All dimensions in millimetres.

Cutting Diameter	Tolerances
2	± 0.1
3	
4	
6	
8	± 0.2
10	
12	
16	± 0.3

4.2 Cylindrical Shank

All dimensions in millimetres.

Shank Diameter h9	Shank Length
3	25
6	32
8	40

TABLE 1 TYPES OF HARD METAL BURRS
(Clauses 2 and 6.1.1)

LETTER SYMBOL	TYPE	FIGURE
A	CYLINDRICAL BURR	
C	CYLINDRICAL ROUND-(BALL-) NOSE BURR	
D	SPHERICAL BURR	
E	OVAL BURR	
F	ARCH ROUND-(BALL-) NOSE BURR	
G	ARCH POINTED-NOSE BURR	
H	FLAME BURR	
J	60° CONE BURR	
K	90° CONE BURR	
L	CONICAL ROUND-(BALL-) NOSE BURR	
M	CONICAL POINTED-NOSE BURR	
N	INVERTED CONE BURR	

4.3 Relation Between Cutting Diameter and Shank Diameter

All dimensions in millimetres.

Cutting Diameter	Shank Diameter		
2	3	—	—
3	3	6	—
4	3	6	—
6	3	6	—
8	—	6	—
10	—	6	—
12	—	6	—
16	—	6	8

5. **Direction of Flute Helix and Direction of Cut** — Shall have right hand helix and right hand cut unless otherwise specified. Burrs of types J and K may also be straight fluted.

6. Designation

6.1 Symbols

6.1.1 *Symbols for type of burr* — Shall be as given in Table 1.

6.1.2 *Symbol for the cutting diameter* — Shall be the numerical value of the cutting diameter in millimetres. Single digit values shall be preceded by a zero.

Example:

Symbol for cutting diameter 6 mm — 06

Symbol for cutting diameter 12 mm — 12

6.1.3 *Symbol for cutting part length* — Shall be the numerical value of the cutting part length in millimetres ignoring decimals. Single digit values shall be preceded by a zero.

Example:

Symbol for cutting part length 5.2 mm — 05

Symbol for cutting part length 10 mm — 10

6.1.4 *Symbol for tooth type*

Letter Symbol	Tooth Type
F	Fine teeth
M	Medium teeth
C	Coarse teeth

6.1.5 Symbol for shank diameter — Shall be the numerical value of the shank diameter in millimetres. Single digit numbers shall be preceded by a zero.

Example

Symbol for shank diameter 3 mm — 03

Symbol for shank diameter 6 mm — 06

6.1.6 Symbol for the shank length — Shall be the numerical value of the shank length in millimetres ignoring decimals.

6.2 Designation Code — Shall include six symbols, the last one being optional.

- 1) Letter symbol identifying the type of burr (*see 6.1.1*)
- 2) Number symbol identifying the cutting diameter (*see 6.1.2*)
- 3) Letter symbol identifying the tooth type (*see 6.1.4*)
- 4) Number symbol identifying the shank diameter (*see 6.1.5*)
- 5) Application range of carbide (*see 3.2*)

Example:

Designation code for cylindrical round (ball) nosed burr having cutting diameter 12 mm, medium type of teeth, shank diameter of 6 mm and application range of carbide K 10 shall be:

C 12 M 06 IS : 11943 (Part 1) K 10

EXPLANATORY NOTE

This standard covers the technical supply conditions of hard metal burrs. The different types of hard metal burrs are covered in Parts 2 to 12 of this standard.

In the preparation of this standard considerable help has been derived from ISO 7755/1—1984 'Hard metal burrs, Part 1 General specifications', issued by the International Organization for Standardization (ISO).